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<120> DIAGNOSTIC TEST FOR WEST NILE VIRUS

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<210> 5
 <211> 519
 <212> DNA
 <213> West Nile virus

<400> 5
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 aaccttggccaa aggtccgc当地 ttattgtt gtc当地 gcttccatcg tc当地 agcgatct ctccaccaaa 180
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 tgc当地 agacaag gagtggtt gcaagggctgg ggcaacggctt gccc当地 gacttatt tggcaaaggaa 300
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 aaagagaata tcaagttacgaa agtggccattt ttttgc当地 catgc当地 cccaa accatctt 420
 cacggaaactt actccacaca ggttggagcc actcaggccag ggagatttgc当地 catcactcc 480
 gc当地 agccctt catacacaactt aaagcttggaa gaatatggaa 519

<210> 6
<211> 171
<212> PRT
<213> West Nile virus

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Asp Ser Cys Val Thr Ile Met Ser Lys Asp Lys Pro Thr Ile Asp Val
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Lys Met Met Asn Met Glu Ala Ala Asn Leu Ala Glu Val Arg Ser Tyr
35 40 45
Cys Tyr Leu Ala Thr Val Ser Asp Leu Ser Thr Lys Ala Ala Cys Pro
50 55 60
Thr Met Gly Glu Ala His Asn Asp Lys Arg Ala Asp Pro Ala Phe Val
65 70 75 80
Cys Arg Gln Gly Val Val Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu
85 90 95
Phe Gly Lys Gly Ser Ile Asp Thr Cys Ala Lys Phe Ala Cys Ser Thr
100 105 110
Lys Ala Ile Gly Arg Thr Ile Leu Lys Glu Asn Ile Lys Tyr Glu Val
115 120 125
Ala Ile Phe Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr
130 135 140
Ser Thr Gln Val Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro
145 150 155 160
Ala Ala Pro Ser Tyr Thr Leu Lys Leu Gly Glu
165 170

<210> 7
<211> 2715
<212> DNA
<213> West Nile virus

<400> 7
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GACACCCTCC TTTGTGACAT CGGAGAGTCC TCGTCAAGTG CTGAGGTTGA AGAGCATAGG 480

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<210> 8
 <211> 905
 <212> PRT
 <213> West Nile virus

<400> 8
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Asn Gln Met Thr Lys Glu Glu Phe Thr Arg Tyr Arg Lys Glu Ala Ile
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Ile Glu Val Asp Arg Ser Ala Ala Lys His Ala Arg Lys Glu Gly Asn
 35 40 45

Val Thr Gly Gly His Pro Val Ser Arg Gly Thr Ala Lys Leu Arg Trp
 50 55 60

Leu Val Glu Arg Arg Phe Leu Glu Pro Val Gly Lys Val Ile Asp Leu
 65 70 75 80

Gly Cys Gly Arg Gly Gly Trp Cys Tyr Tyr Met Ala Thr Gln Lys Arg
 85 90 95

Val Gln Glu Val Arg Gly Tyr Thr Lys Gly Gly Pro Gly His Glu Glu
 100 105 110

Pro Gln Leu Val Gln Ser Tyr Gly Trp Asn Ile Val Thr Met Lys Ser
 115 120 125

Gly Val Asp Val Phe Tyr Arg Pro Ser Glu Cys Cys Asp Thr Leu Leu
 130 135 140

Cys Asp Ile Gly Glu Ser Ser Ser Ala Glu Val Glu Glu His Arg
 145 150 155 160

Thr Ile Arg Val Leu Glu Met Val Glu Asp Trp Leu His Arg Gly Pro
 165 170 175

Arg Glu Phe Cys Val Lys Val Leu Cys Pro Tyr Met Pro Lys Val Ile
 180 185 190

Glu Lys Met Glu Leu Leu Gln Arg Arg Tyr Gly Gly Leu Val Arg
 195 200 205

Asn Pro Leu Ser Arg Asn Ser Thr His Glu Met Tyr Trp Val Ser Arg
 210 215 220

Ala Ser Gly Asn Val Val His Ser Val Asn Met Thr Ser Gln Val Leu
 225 230 235 240

Leu Gly Arg Met Glu Lys Arg Thr Trp Lys Gly Pro Gln Tyr Glu Glu
 245 250 255

Asp Val Asn Leu Gly Ser Gly Thr Arg Ala Val Gly Lys Pro Leu Leu
 260 265 270

Asn Ser Asp Thr Ser Lys Ile Lys Asn Arg Ile Glu Arg Leu Arg Arg
 275 280 285

Glu Tyr Ser Ser Thr Trp His His Asp Glu Asn His Pro Tyr Arg Thr
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Trp Asn Tyr His Gly Ser Tyr Asp Val Lys Pro Thr Gly Ser Ala Ser
 305 310 315 320

Ser Leu Val Asn Gly Val Val Arg Leu Leu Ser Lys Pro Trp Asp Thr
 325 330 335

Ile Thr Asn Val Thr Thr Met Ala Met Thr Asp Thr Thr Pro Phe Gly
 340 345 350

Gln Gln Arg Val Phe Lys Glu Lys Val Asp Thr Lys Ala Pro Glu Pro
 355 360 365

Pro Glu Gly Val Lys Tyr Val Leu Asn Glu Thr Thr Asn Trp Leu Trp
 370 375 380

Ala Phe Leu Ala Arg Glu Lys Arg Pro Arg Met Cys Ser Arg Glu Glu
 385 390 395 400

Phe Ile Arg Lys Val Asn Ser Asn Ala Ala Leu Gly Ala Met Phe Glu
 405 410 415

Glu Gln Asn Gln Trp Arg Ser Ala Arg Glu Ala Val Glu Asp Pro Lys
 420 425 430

Phe Trp Glu Met Val Asp Glu Glu Arg Glu Ala His Leu Arg Gly Glu
 435 440 445

Cys His Thr Cys Ile Tyr Asn Met Met Gly Lys Arg Glu Lys Lys Pro
 450 455 460

Gly Glu Phe Gly Lys Ala Lys Gly Ser Arg Ala Ile Trp Phe Met Trp
 465 470 475 480

Leu Gly Ala Arg Phe Leu Glu Phe Glu Ala Leu Gly Phe Leu Asn Glu
 485 490 495

Asp His Trp Leu Gly Arg Lys Asn Ser Gly Gly Val Glu Gly Leu
 500 505 510

Gly Leu Gln Lys Leu Gly Tyr Ile Leu Arg Glu Val Gly Thr Arg Pro
 515 520 525

Gly Gly Lys Ile Tyr Ala Asp Asp Thr Ala Gly Trp Asp Thr Arg Ile
 530 535 540

Thr Arg Ala Asp Leu Glu Asn Glu Ala Lys Val Leu Glu Leu Leu Asp
 545 550 555 560

Gly Glu His Arg Arg Leu Ala Arg Ala Ile Ile Glu Leu Thr Tyr Arg
 565 570 575

His Lys Val Val Lys Val Met Arg Pro Ala Ala Asp Gly Arg Thr Val
 580 585 590

Met Asp Val Ile Ser Arg Glu Asp Gln Arg Gly Ser Gly Gln Val Val
 595 600 605

Thr Tyr Ala Leu Asn Thr Phe Thr Asn Leu Ala Val Gln Leu Val Arg
 610 615 620

Met Met Glu Gly Glu Gly Val Ile Gly Pro Asp Asp Val Glu Lys Leu
 625 630 635 640

Thr Lys Gly Lys Gly Pro Lys Val Arg Thr Trp Leu Phe Glu Asn Gly
 645 650 655

Glu Glu Arg Leu Ser Arg Met Ala Val Ser Gly Asp Asp Cys Val Val
 660 665 670

Lys Pro Leu Asp Asp Arg Phe Ala Thr Ser Leu His Phe Leu Asn Ala
 675 680 685

Met Ser Lys Val Arg Lys Asp Ile Gln Glu Trp Lys Pro Ser Thr Gly
 690 695 700

Trp Tyr Asp Trp Gln Gln Val Pro Phe Cys Ser Asn His Phe Thr Glu
 705 710 715 720

Leu Ile Met Lys Asp Gly Arg Thr Leu Val Val Pro Cys Arg Gly Gln
 725 730 735

Asp Glu Leu Val Gly Arg Ala Arg Ile Ser Pro Gly Ala Gly Trp Asn
 740 745 750

Val Arg Asp Thr Ala Cys Leu Ala Lys Ser Tyr Ala Gln Met Trp Leu
 755 760 765

Leu Leu Tyr Phe His Arg Arg Asp Leu Arg Leu Met Ala Asn Ala Ile
 770 775 780

Cys Ser Ala Val Pro Val Asn Trp Val Pro Thr Gly Arg Thr Thr Trp
 785 790 795 800

Ser Ile His Ala Gly Gly Glu Trp Met Thr Thr Glu Asp Met Leu Glu
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Val Trp Asn Arg Val Trp Ile Glu Glu Asn Glu Trp Met Glu Asp Lys
 820 825 830

Thr Pro Val Glu Lys Trp Ser Asp Val Pro Tyr Ser Gly Lys Arg Glu
 835 840 845

Asp Ile Trp Cys Gly Ser Leu Ile Gly Thr Arg Ala Arg Ala Thr Trp
 850 855 860

Ala Glu Asn Ile Gln Val Ala Ile Asn Gln Val Arg Ala Ile Ile Gly
 865 870 875 880

Asp Glu Lys Tyr Val Asp Tyr Met Ser Ser Leu Lys Arg Tyr Glu Asp
 885 890 895

Thr Thr Leu Val Glu Asp Thr Val Leu
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<211> 2697
<212> DNA
<213> Dengue virus type 1
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 <211> 899
 <212> PRT
 <213> Dengue virus type 1

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Ile	Ile	Glu	Val	Asp	Arg	Ser	Glu	Ala	Lys	Glu	Gly	Leu	Lys	Arg	Gly
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Val	Thr	Glu	Val	Lys	Gly	Tyr	Thr	Lys	Gly	Gly	Pro	Gly	His	Glu	Glu
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Pro	Ile	Pro	Met	Ala	Thr	Tyr	Gly	Trp	Asn	Leu	Val	Lys	Leu	Tyr	Ser
	115					120					125				
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Cys	Asp	Ile	Gly	Glu	Ser	Ser	Pro	Asn	Pro	Thr	Ile	Glu	Glu	Gly	Arg
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Phe	Cys	Ile	Lys	Ile	Leu	Asn	Pro	Tyr	Met	Pro	Ser	Val	Val	Glu	Thr
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Leu	Glu	Gln	Met	Gln	Arg	Lys	His	Gly	Gly	Met	Leu	Val	Arg	Asn	Pro
		195				200				205					
Leu	Ser	Arg	Asn	Ser	Thr	His	Glu	Met	Tyr	Trp	Val	Ser	Cys	Gly	Thr
	210				215					220					
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 275 280 285
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 290 295 300
 His Gly Ser Tyr Glu Val Lys Pro Ser Gly Ser Ala Ser Ser Met Val
 305 310 315 320
 Asn Gly Val Val Arg Leu Leu Thr Lys Pro Trp Asp Val Ile Pro Met
 325 330 335
 Val Thr Gln Ile Ala Met Thr Asp Thr Thr Pro Phe Gly Gln Gln Arg
 340 345 350
 Val Phe Lys Glu Lys Val Asp Thr Arg Thr Pro Lys Ala Lys Arg Gly
 355 360 365
 Thr Ala Gln Ile Met Glu Val Thr Ala Arg Trp Leu Trp Gly Phe Leu
 370 375 380
 Ser Arg Asn Lys Lys Pro Arg Ile Cys Thr Arg Glu Glu Phe Thr Arg
 385 390 395 400
 Lys Val Arg Ser Asn Ala Ala Ile Gly Ala Val Phe Val Asp Glu Asn
 405 410 415
 Gln Trp Asn Ser Ala Lys Glu Ala Val Glu Asp Glu Arg Phe Trp Asp
 420 425 430
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 435 440 445
 Cys Val Tyr Asn Met Met Gly Lys Arg Glu Lys Lys Leu Gly Glu Phe
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 Gly Lys Ala Lys Gly Ser Arg Ala Ile Trp Tyr Met Trp Leu Gly Ala
 465 470 475 480
 Arg Phe Leu Glu Phe Glu Ala Leu Gly Phe Met Asn Glu Asp His Trp
 485 490 495
 Phe Ser Arg Glu Asn Ser Leu Ser Gly Val Glu Gly Glu Gly Leu His
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 Lys Leu Gly Tyr Ile Leu Arg Asp Ile Ser Lys Ile Pro Gly Gly Asn
 515 520 525
 Met Tyr Ala Asp Asp Thr Ala Gly Trp Asp Thr Arg Ile Thr Glu Asp
 530 535 540

Asp Leu Gln Asn Glu Ala Lys Ile Thr Asp Ile Met Glu Pro Glu His
 545 550 555 560

Ala Leu Leu Ala Thr Ser Ile Phe Lys Leu Thr Tyr Gln Asn Lys Val
 565 570 575

Val Arg Val Gln Arg Pro Ala Lys Asn Gly Thr Val Met Asp Val Ile
 580 585 590

Ser Arg Arg Asp Gln Arg Gly Ser Gly Gln Val Gly Thr Tyr Gly Leu
 595 600 605

Asn Thr Phe Thr Asn Met Glu Ala Gln Leu Ile Arg Gln Met Glu Ser
 610 615 620

Glu Gly Ile Phe Ser Pro Ser Glu Leu Glu Thr Pro Asn Leu Ala Glu
 625 630 635 640

Arg Val Leu Asp Trp Leu Lys Lys His Gly Thr Glu Arg Leu Lys Arg
 645 650 655

Met Ala Ile Ser Gly Asp Asp Cys Val Val Lys Pro Ile Asp Asp Arg
 660 665 670

Phe Ala Thr Ala Leu Thr Ala Leu Asn Asp Met Gly Lys Val Arg Lys
 675 680 685

Asp Ile Pro Gln Trp Glu Pro Ser Lys Gly Trp Asn Asp Trp Gln Gln
 690 695 700

Val Pro Phe Cys Ser His His Phe His Gln Leu Ile Met Lys Asp Gly
 705 710 715 720

Arg Glu Ile Val Val Pro Cys Arg Asn Gln Asp Glu Leu Val Gly Arg
 725 730 735

Ala Arg Val Ser Gln Gly Ala Gly Trp Ser Leu Arg Glu Thr Ala Cys
 740 745 750

Leu Gly Lys Ser Tyr Ala Gln Met Trp Gln Leu Met Tyr Phe His Arg
 755 760 765

Arg Asp Leu Arg Leu Ala Ala Asn Ala Ile Cys Ser Ala Val Pro Val
 770 775 780

Asp Trp Val Pro Thr Ser Arg Thr Thr Trp Ser Ile His Ala His His
 785 790 795 800

Gln Trp Met Thr Thr Glu Asp Met Leu Ser Val Trp Asn Arg Val Trp
 805 810 815

Ile Glu Glu Asn Pro Trp Met Glu Asp Lys Thr His Val Ser Ser Trp
 820 825 830

Glu Asp Val Pro Tyr Leu Gly Lys Arg Glu Asp Arg Trp Cys Gly Ser
 835 840 845

Leu Ile Gly Leu Thr Ala Arg Ala Thr Trp Ala Thr Asn Ile Gln Val
 850 855 860

Ala Ile Asn Gln Val Arg Arg Leu Ile Gly Asn Glu Asn Tyr Leu Asp
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Phe Met Thr Ser Met Lys Arg Phe Lys Asn Glu Ser Asp Pro Glu Gly
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Ala Leu Trp

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<211> 2701
<212> DNA
<213> Dengue virus type 2

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gagaactcct tgagtggagt ggaaggagaa gggctgcaca agcttaggtt cattttaaaga 1560
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 aagaacatcc aaacagcaat aaatcaagtt agatccctt taggcaatga ggaatacaca 2640
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 t 2701

<210> 12
 <211> 900
 <212> PRT
 <213> Dengue virus type 2

<400> 12															
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			20			25						30			
Ile	Gln	Glu	Val	Asp	Arg	Thr	Leu	Ala	Lys	Glu	Ile	Lys	Arg	Gly	
35					40						45				
Glu	Thr	Asp	His	His	Ala	Val	Ser	Arg	Gly	Ser	Ala	Lys	Leu	Arg	Trp
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Phe	Val	Glu	Arg	Asn	Met	Val	Thr	Pro	Glu	Gly	Lys	Val	Val	Asp	Leu
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Gly	Cys	Gly	Arg	Gly	Gly	Trp	Ser	Tyr	Tyr	Cys	Gly	Gly	Leu	Lys	Asn
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Val	Arg	Glu	Val	Lys	Gly	Leu	Thr	Lys	Gly	Gly	Pro	Gly	His	Glu	Glu
			100				105					110			
Pro	Ile	Pro	Met	Ser	Thr	Tyr	Gly	Trp	Asn	Leu	Val	Arg	Leu	Gln	Ser
					115			120			125				
Gly	Val	Asp	Val	Phe	Phe	Thr	Pro	Pro	Glu	Lys	Cys	Asp	Thr	Leu	Leu
					130			135			140				
Cys	Asp	Ile	Gly	Glu	Ser	Ser	Pro	Asn	Pro	Thr	Val	Glu	Ala	Gly	Arg
145					150				155				160		

Thr Leu Arg Val Leu Asn Leu Val Glu Asn Trp Leu Asn Asn Asn Thr
 165 170 175

 Gln Phe Cys Ile Lys Val Leu Asn Pro Tyr Met Pro Ser Val Ile Glu
 180 185 190

 Lys Met Glu Ala Leu Gln Arg Lys Tyr Gly Gly Ala Leu Val Arg Asn
 195 200 205

 Pro Leu Ser Arg Asn Ser Thr His Glu Met Tyr Trp Val Ser Asn Ala
 210 215 220

 Ser Gly Asn Ile Val Ser Ser Val Asn Met Ile Ser Arg Met Leu Ile
 225 230 240

 Asn Arg Phe Thr Met Arg His Lys Lys Ala Thr Tyr Glu Pro Asp Val
 245 250 255

 Asp Leu Gly Ser Gly Thr Arg Asn Ile Gly Ile Glu Ser Glu Ile Pro
 260 265 270

 Asn Leu Asp Ile Ile Gly Lys Arg Ile Glu Lys Ile Lys Gln Glu His
 275 280 285

 Glu Thr Ser Trp His Tyr Asp Gln Asp His Pro Tyr Lys Thr Trp Ala
 290 295 300

 Tyr His Gly Ser Tyr Glu Thr Lys Gln Thr Gly Ser Ala Ser Ser Met
 305 310 315 320

 Val Asn Gly Val Val Arg Leu Leu Thr Lys Pro Trp Asp Val Val Pro
 325 330 335

 Met Val Thr Gln Met Ala Met Thr Asp Thr Thr Pro Phe Gly Gln Gln
 340 345 350

 Arg Val Phe Lys Glu Lys Val Asp Thr Arg Thr Gln Glu Pro Lys Glu
 355 360 365

 Gly Thr Lys Lys Leu Met Lys Ile Thr Ala Glu Trp Leu Trp Lys Glu
 370 375 380

 Leu Gly Lys Lys Lys Thr Pro Arg Met Cys Thr Arg Glu Glu Phe Thr
 385 390 395 400

 Arg Lys Val Arg Ser Asn Ala Ala Leu Gly Ala Ile Phe Thr Asp Glu
 405 410 415

 Asn Lys Trp Lys Ser Ala Arg Glu Ala Val Glu Asp Ser Arg Phe Trp
 420 425 430

 Glu Leu Val Asp Lys Glu Arg Asn Leu His Leu Glu Gly Lys Cys Glu
 435 440 445

Thr Cys Val Tyr Asn Met Met Gly Lys Arg Glu Lys Lys Leu Gly Glu
 450 455 460

Phe Gly Lys Ala Lys Gly Ser Arg Ala Ile Trp Tyr Met Trp Leu Gly
 465 470 475 480

Ala Arg Phe Leu Glu Phe Glu Ala Leu Gly Phe Leu Asn Glu Asp His
 485 490 495

Trp Phe Ser Arg Glu Asn Ser Leu Ser Gly Val Glu Gly Glu Gly Leu
 500 505 510

His Lys Leu Gly Tyr Ile Leu Arg Asp Val Ser Lys Lys Glu Gly Gly
 515 520 525

Ala Met Tyr Ala Asp Asp Thr Ala Gly Trp Asp Thr Arg Ile Thr Leu
 530 535 540

Glu Asp Leu Lys Asn Glu Glu Met Val Thr Asn His Met Glu Gly Glu
 545 550 555 560

His Lys Lys Leu Ala Glu Ala Ile Phe Lys Leu Thr Tyr Gln Asn Lys
 565 570 575

Val Val Arg Val Gln Arg Pro Thr Pro Arg Gly Thr Val Met Asp Ile
 580 585 590

Ile Ser Arg Arg Asp Gln Arg Gly Ser Gly Gln Val Gly Thr Tyr Gly
 595 600 605

Leu Asn Thr Phe Thr Asn Met Glu Ala Gln Leu Ile Arg Gln Met Glu
 610 615 620

Gly Glu Gly Val Phe Lys Ser Ile Gln His Leu Thr Val Thr Glu Glu
 625 630 635 640

Ile Ala Val Gln Asn Trp Leu Ala Arg Val Gly Arg Glu Arg Leu Ser
 645 650 655

Arg Met Ala Ile Ser Gly Asp Asp Cys Val Val Lys Pro Leu Asp Asp
 660 665 670

Arg Phe Ala Ser Ala Leu Thr Ala Leu Asn Asp Met Gly Lys Val Arg
 675 680 685

Lys Asp Ile Gln Gln Trp Glu Pro Ser Arg Gly Trp Asn Asp Trp Thr
 690 695 700

Gln Val Pro Phe Cys Ser His His Phe His Glu Leu Ile Met Lys Asp
 705 710 715 720

Gly Arg Val Leu Val Val Pro Cys Arg Asn Gln Asp Glu Leu Ile Gly
 725 730 735

Arg Ala Arg Ile Ser Gln Gly Ala Gly Trp Ser Leu Arg Glu Thr Ala
 740 745 750
 Cys Leu Gly Lys Ser Tyr Ala Gln Met Trp Ser Leu Met Tyr Phe His
 755 760 765
 Arg Arg Asp Leu Arg Leu Ala Ala Asn Ala Ile Cys Ser Ala Val Pro
 770 775 780
 Ser His Trp Val Pro Thr Ser Arg Thr Trp Ser Ile His Ala Lys
 785 790 795 800
 His Glu Trp Met Thr Thr Glu Asp Met Leu Thr Val Trp Asn Arg Val
 805 810 815
 Trp Ile Gln Glu Asn Pro Trp Met Glu Asp Lys Thr Pro Val Glu Ser
 820 825 830
 Trp Glu Glu Ile Pro Tyr Leu Gly Lys Arg Glu Asp Gln Trp Cys Gly
 835 840 845
 Ser Leu Ile Gly Leu Thr Ser Arg Ala Thr Trp Ala Lys Asn Ile Gln
 850 855 860
 Thr Ala Ile Asn Gln Val Arg Ser Leu Ile Gly Asn Glu Glu Tyr Thr
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 <220>
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<210> 14
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<220>
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<400> 14
Cys Gln Leu Leu Met Arg Glu Val Lys Thr Gly Thr Lys Lys
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<210> 15
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
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<400> 15
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1 5 10 15

Tyr Glu Val

<210> 16
<211> 23
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
primer

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23

<210> 17
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<400> 17
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21

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<211> 27
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<400> 18
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<210> 19
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<212> DNA
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<223> Description of Artificial Sequence: Synthetic
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<400> 19
ctgcagttat ttgccaaatgc tgcttcc                                27

<210> 20
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<220>
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<400> 20
His His His His His His
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